

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A water-impermeable flexible polyurethane foam obtained by:

reacting a polyol component with at least one polyisocyanate component in the presence of a foaming agent;

wherein:

the polyol component comprises at least one hydrophobic polyol;

the polyisocyanate component comprises at least 30 mol% of 2,4'-methylene-bis(phenylisocyanate) isomer (2,4'MDI);

the foam has a compression force of less than or equal to 12 kPa for 50% compression; and

a molar ratio of isocyanate functional groups to a total of alcohol functional groups and reactive functional groups (the index) is less than 0.90.

Claim 2 (Previously Presented): The polyurethane foam as claimed in claim 1, wherein the compression force is from around 8 to 12 kPa for 50% compression.

Claim 3 (Previously Presented): The polyurethane foam as claimed in claim 1, wherein the foam has a density not exceeding 150 kg/m³.

Claim 4 (Previously Presented): The polyurethane foam of claim 1, wherein at least one of the polyol component and the polyisocyanate component has a functionality greater than 2.

Claim 5 (Previously Presented): The polyurethane foam of claim 1, wherein the isocyanate index is less than or equal to 0.85.

Claim 6 (Previously Presented): The polyurethane foam of claim 1, wherein the polyol component is reacted with the polyisocyanate component in the presence of a monofunctional alcohol or amine component.

Claim 7 (Previously Presented): The polyurethane foam of claim 1, wherein the hydrophobic polyol comprises a fatty hydrocarbon chain.

Claim 8 (Previously Presented): The polyurethane foam as claimed in claim 7, wherein the hydrophobic polyol is derived from a fatty acid dimer.

Claim 9 (Previously Presented): The polyurethane foam of claim 1, wherein the polyisocyanate component comprises 4,4'-methylene-bis(phenylisocyanate) (4,4'MDI).

Claim 10 (Cancelled).

Claim 11 (Previously Presented): The polyurethane foam of claim 1, wherein the foaming agent comprises water.

Claim 12 (Previously Presented): The polyurethane foam of claim 1, wherein the foam is obtained in the presence of at least one additive having at least one reactive functional group that reacts with the polyisocyanate component or with the polyol component.

Claim 13 (Previously Presented): A process for manufacturing the polyurethane foam as claimed in claim 1, comprising:

preparing a reaction mixture comprising the polyol component, the polyisocyanate component and the foaming agent;

casting the reaction mixture on a conveyor belt; and

running the conveyor belt and the cast mixture through a crosslinking oven.

Claim 14 (Previously Presented): The process as claimed in claim 13, further comprising:

depositing an upper protective film on the cast mixture;

wherein running the conveyor belt and the cast mixture comprises running the conveyor belt and the cast mixture coated with the upper protective film through the crosslinking oven.

Claim 15 (Previously Presented): The process of claim 14, further comprising casting a lower protective film on the conveyor belt before casting the reaction mixture on the conveyor belt.

Claim 16 (Previously Presented): The process of claim 15, wherein at least one of the lower protective film and the upper protective film comprises an adhesive provided on a surface that contacts the reaction mixture.

Claim 17 (Previously Presented): The process of claim 15, further comprising:
removing the lower protective film and/or the upper protective film; and
attaching a further film comprising an adhesive to a free surface of the foam strip.

Claim 18 (Previously Presented): A process for manufacturing the polyurethane foam as claimed in claim 1, comprising:

preparing a reaction mixture comprising the polyol component, the polyisocyanate component and the foaming agent;

injection or casting the reaction mixture in a closed or open mold; and
crosslinking the mixture in the mold.

Claim 19 (Canceled).

Claim 20 (Previously Presented): The polyurethane foam as claimed in claim 2, wherein the polyurethane foam has a density not exceeding 150 kg/m^3 .

Claim 21 (Previously Presented): The polyurethane foam as claimed in claim 1, wherein the polyurethane foam has a density not exceeding 60 kg/m^3 .

Claim 22 (New): A water-impermeable flexible polyurethane foam obtained by:
reacting a polyol component with at least one polyisocyanate component in the presence of a foaming agent;
wherein:
the polyol component comprises at least one hydrophobic polyol;

the polyisocyanate component comprises at least 30 mol% of 2,4'-methylene-bis(phenylisocyanate) isomer (2,4'MDI);

the polyisocyanate component comprises 4,4'-methylene-bis(phenylisocyanate) isomer (4,4'MDI);

the foam has a compression force of less than or equal to 12 kPa for 50% compression; and

a molar ratio of isocyanate functional groups to a total of alcohol functional groups and reactive functional groups (the index) is less than 0.90.

Claim 23 (New): A water-impermeable flexible polyurethane foam obtained by:
reacting a polyol component with at least one polyisocyanate component in the presence of a foaming agent;

wherein:

the polyol component comprises at least one hydrophobic polyol;

the polyisocyanate component comprises at least 30 mol% of 2,4'-methylene-bis(phenylisocyanate) isomer (2,4'MDI);

the foam has a compression force of less than or equal to 12 kPa for 50% compression; and

a molar ratio of isocyanate functional groups to a total of alcohol functional groups and reactive functional groups (the index) is less than or equal to 0.85.

Claim 24 (New): A water-impermeable flexible polyurethane foam obtained by:
reacting a polyol component with at least one polyisocyanate component in the presence of a foaming agent;

wherein:

the polyol component comprises at least one hydrophobic polyol;

the polyisocyanate component comprises at least 30 mol% of 2,4'-methylene-bis(phenylisocyanate) isomer (2,4'MDI);

the polyisocyanate component comprises 4,4'-methylene-bis(phenylisocyanate) isomer (4,4'MDI);

the foam has a compression force of less than or equal to 12 kPa for 50% compression; and

a molar ratio of isocyanate functional groups to a total of alcohol functional groups and reactive functional groups (the index) is less than or equal to 0.85.

Claim 25 (New): A water-impermeable flexible polyurethane foam obtained by:
reacting a polyol component with at least one polyisocyanate component in the presence of a foaming agent;

wherein:

the polyol component comprises at least one hydrophobic polyol;

the polyol component has a functionality of from 2.1 to 2.3;

the polyisocyanate component comprises at least 30 mol% of 2,4'-methylene-bis(phenylisocyanate) isomer (2,4'MDI);

the polyisocyanate component comprises 4,4'-methylene-bis(phenylisocyanate) isomer (4,4'MDI);

the polyisocyanate component has a functionality of from 2.1 to 2.3;

the foam has a compression force of less than or equal to 12 kPa for 50% compression; and

a molar ratio of isocyanate functional groups to a total of alcohol functional groups and reactive functional groups (the index) is less than 0.90.